

THE IMPACT OF RELIEF ON GROUND BEETLE (CARABIDAE) COMMUNITIES IN A BOREAL FOREST ON NORTH AND SOUTH SIDES OF RIDGE IN NATURE RESERVE “LIELIE KANGARI”

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In Latvia boreal forests on a ridge are rare and these habitats have European importance. It is possible to define different abiotic factors on the ridge such as slope, soil moisture and pH, light etc. The aim of this study is to find out the impact of important form of relief on ground beetle communities. Work tasks: define abiotic factors on the North and South sides of slopes, sample ground beetle communities, define fluctuations by gradient, and also compare ground beetle communities and define how abiotic factors affect them.

The study was made in the nature reserve “Lielie Kangari”, in a drained pine forest from the 17th to 31st of August, 2011. Two transects were used on each side of the ridge. On each transect 30 pitfall traps were exposed. Soil moisture and pH, gradient of slope, distance from the road were defined. Correlation coefficients were calculated, DCA ordination and linear regression analysis were made.

Observed that the gradient of slope has a significantly positive impact on soil moisture but negative on pH. During the study 386 individuals were collected and 9 ground beetle species were found. *Pterostichus niger* was an eudominant species. The average number of individuals on the North side was 5.2 but on the South side – 9.46. North and South transects were not significantly different by the ground beetle individual and species number. Found that the gradient of slope makes the highest effect on ground beetle communities which, as mentioned before, makes the soil pH and moisture gradient on the ridge.